# Air Quality Summary—September 2010

## Baton Rouge Area

***OZONE***

There were two days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of September 2010. Both the Capitol and LSU monitors reached 76 ppb or 101 AQI on September 3. The Bayou Plaquemine monitor reached 82 ppb or 116 AQI and the LSU monitor reached 80 ppb (111 AQI) on September 14. See the chart below for more detailed information.

*There were no Ozone Action Days called for the Baton Rouge area during the month of September.*

***$PM_{2.5}$***

There were no exceedances of the NAAQS for $PM_{2.5}$ in the Baton Rouge area during the month of September 2010. Please see the chart on the next page for detailed information on $PM_{2.5}$ levels throughout the state in September.

## Other Areas of the State

***OZONE***

There were five days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone during the month of September 2010 in areas of the state other than Baton Rouge. September 14: Shreveport Airport 90 ppb (137 AQI), Hahnville 79 ppb (109 AQI), Lafayette 78 ppb (106 AQI), Carlyss 76 ppb (101 AQI). September15: Shreveport Airport 83 ppb (119 AQI), Dixie 83 ppb (119 AQI). September 16: Shreveport Airport 76 ppb (101 AQI). September 20: Dixie 78 ppb (106 AQI).

*There were no Ozone Action Days during the month of September.*

***$PM_{2.5}$***

There were no exceedances of the NAAQS for $PM_{2.5}$ in any area of the state during the month of September 2010. Please see the chart on the next page for detailed information on $PM_{2.5}$ levels throughout the state in September.

**Statewide 8-HR Ozone Readings /AQI**
**Above 75 ppb**

| DATE | AQI | 8-HR OZONE Concentration (ppb) | MONITORING SITE |
|---|---|---|---|
| **9/3/2010** | 101 | 76 | Capitol |
| | 101 | 76 | LSU |
| **9/14/2010** | 137 | 90 | Shreveport Airport |
| | 116 | 82 | Bayou Plaquemine |
| | 111 | 80 | LSU |
| | 109 | 79 | Hahnville |

| DATE | AQI | 8-HR OZONE Concentration (ppb) | MONITORING SITE |
|---|---|---|---|
| **9/14/2010** | 106 | 78 | Lafayette |
| | 101 | 76 | Carlyss |
| **9/15/2010** | 119 | 83 | Shreveport Airport |
| | 119 | 83 | Dixie |
| **9/16/2010** | 101 | 76 | Shreveport Airport |
| **9/20/2010** | 106 | 78 | Dixie |

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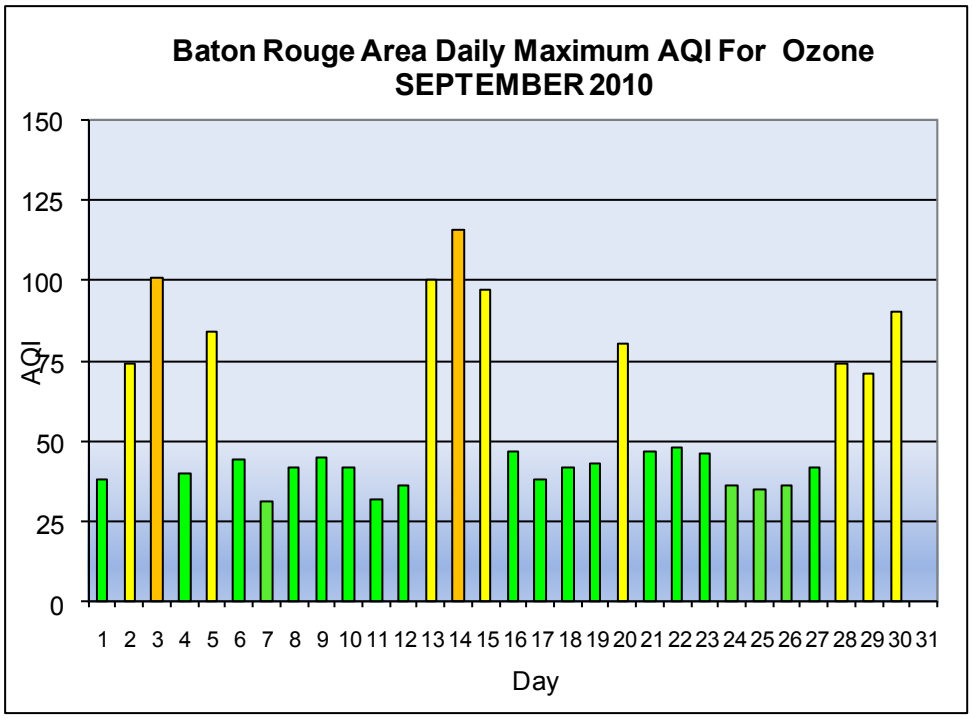
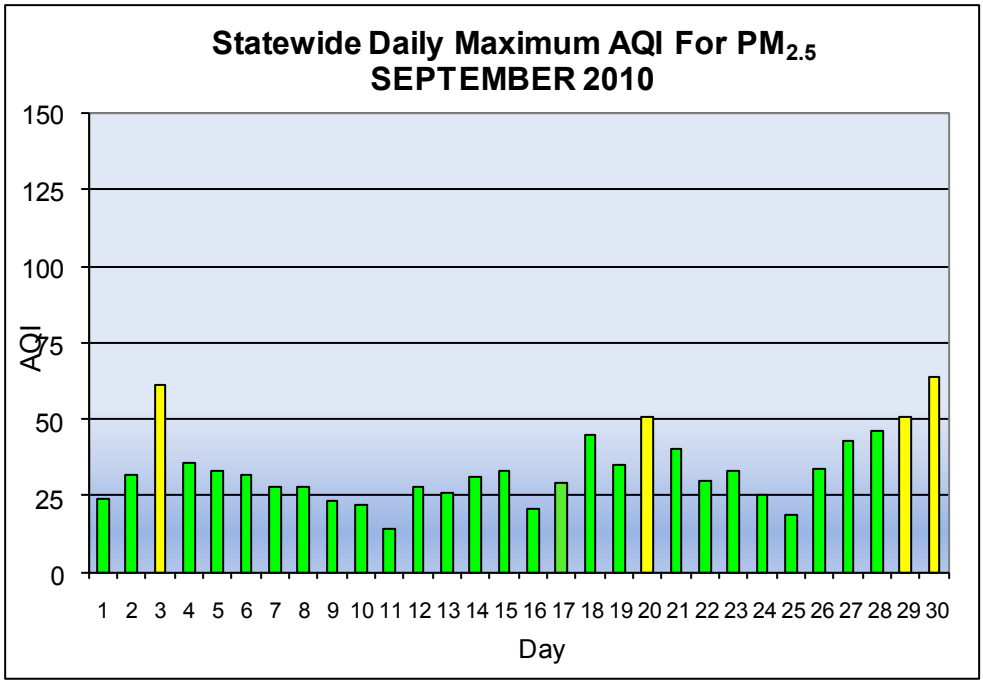



| AQI AIR QUALITY INDEX | |
|---|---|
| 0-50 | Good |
| 51-100 | Moderate |
| 101-150 | Unhealthy for Sensitive Groups |
| 151-200 | Unhealthy |
| 201-300 | Very Unhealthy |




**Statewide High PM2.5 24-Hour Average Readings-September 2010**

| DAY | UG/m3 | AQI | SITE |
|---|---|---|---|
| 1 | 12 | 24 | Chalmette Vista |
| 2 | 15 | 32 | Chalmette Vista |
| 3 | 25 | 61 | Chalmette Vista |
| 4 | 18 | 36 | Chalmette Vista |
| 5 | 14 | 33 | Chalmette Vista |
| 6 | 12 | 32 | Chalmette Vista |
| 7 | 9 | 28 | Chalmette Vista |
| 8 | 12 | 28 | Chalmette Vista |
| 9 | 11 | 23 | Chalmette Vista |
| 10 | 12 | 22 | Chalmette Vista |
| 11 | 15 | 14 | Chalmette Vista |
| 12 | 16 | 28 | Chalmette Vista |
| 13 | 14 | 26 | Chalmette Vista |
| 14 | 17 | 31 | Chalmette Vista |
| 15 | 18.5 | 33 | Shreveport Airport |
| 16 | 15 | 21 | Shreveport Airport |
| 17 | 14.1 | 29 | Madisonville |
| 18 | 19.4 | 45 | Westlake |
| 19 | 20.1 | 35 | Pride |
| 20 | 22.1 | 51 | Shreveport Airport |
| 21 | 15 | 40 | Chalmette Vista |
| 22 | 14 | 30 | Chalmette Vista |
| 23 | 10.1 | 33 | Capitol |
| 24 | 9.2 | 25 | Shreveport Airport |
| 25 | 18.5 | 19 | French Settlement |
| 26 | 11.2 | 34 | Pride |
| 27 | 14 | 43 | Chalmette Vista |
| 28 | 16 | 46 | Chalmette Vista |
| 29 | 23.2 | 51 | Westlake |
| 30 | 22.1 | 64 | Westlake |

# Baton Rouge Climate Summary—September 2010

*Prepared by: Jay Grymes

(based on available preliminary data as of November 2, 2010)

For the sixth consecutive month, temperatures were above normal at Metro Airport for September. September's mean monthly temperature was 79.7ºF, 2.2º above the norm. While this departure is far from a record for the month, the persistence of warmer-than-normal weather for Metro AP is noteworthy.

*May through September 2010 ranks as the "warmest" for this period back through at least 1930, with a five-month average temperature of 82.0ºF (the five-month normal is 78.9ºF). A quick glance at records back to 1905 suggests that only May-Sep 1921 may have been warmer, and there remains some doubt regarding the representative basis of temperatures for that year.*

Daily maximum temperatures at Metro AP during September 2010 reached 90º or above on 23 dates (compared to a long-term average of 13 days), including a 20-day stretch extending from Sep 6th through the 25th. The thermometer hit 95º on the 12th, with 94º recorded on the 11th and 18th. Daily average temperatures were above-normal for all but 7 dates -- four of those 7 "cool" days came at month's end, thanks to a much-appreciated fall cool front.

Table 1: Average "daylight hours" sky conditions (to 12,000 ft) during September 2010, based on automated ASOS observations from Baton Rouge's Metro Airport.

| Sky Condition: Sunrise to Sunset (Sky Coverage) | Clear to Mostly Sunny (0/10ths – 3/10ths) | Partly Cloudy / Partly Sunny (4/10ths – 6/10ths) | Mostly Cloudy to Cloudy (7/10ths – 10/10ths) |
|---|---|---|---|
| No. Days | 15 | 15 | 0 |

Official sunrise-to-sunset periods, excluding 'Civil Twilight,' ranged from 12.8 hours (Sep 1) to 11.9 hours (Sep 30).

Rainfall was well below normal for every site in the Baton Rouge metro area (Table 2) during September; Metro AP's September total of 1.90" was nearly 3" below the monthly mean. Metro AP's 1.90" is far from a record low for the month -- there have been five Septembers since 1900 when rainfall totaled under one inch.

Of the 26 sites in Table 2, four reported less than 1" of rain for the month. Only six sites reported more than 2" of rain for September, with Zachary (USGS) being the only location to top 3" for the month. Based on the 26 sites included in table 2, the regional average (unweighted) rainfall for September was 1.60" (with a median of 1.63").

Table 2: September 2010 rainfall for selected rainfall reporting stations across the greater Baton Rouge metro area. (Data are preliminary and provided courtesy of the National Weather Service, the LSU Southern Regional Climate Center, the USGS, and the LSU AgCenter.)

| Rainfall-Recording Site | Monthly Rainfall | Monthly DFN | No. Days ≥ 0.01" | No. Days ≥ 1.00" |
|---|---|---|---|---|
| ***BR - Metro AP*** | ***1.90"*** | ***-2.94"*** | ***5*** | ***1*** |
| *NWS Cooperative Network Sites* | | | | |
| BR - Concord Estates | 1.07" | -3.29" | 4 | 0 |
| BR - Sherwood Forest | 1.86" | -2.79" | 5 | 1 |
| Denham Springs | 1.27" | -2.98" | 5 | 0 |
| Gonzales | 0.84" | -3.69" | 3 | 0 |
| Livingston | 0.55" | -4.12" | 7 | 0 |
| New Roads | 1.62" | -3.27" | 4 | 0 |
| Oaknolia | 2.52" | -2.40" | 4 | 1 |
| Port Allen | 1.12" | -3.68" | 3 | 0 |
| *USGS HydroWatch Selected Sites* | | | | |
| Clinton (07377195) | 1.65" | -- | 4 | 0 |
| Zachary (07377750) | 3.29" | -- | 5 | 1 |
| Comite nr. Comite (07378000) | 1.94" | -- | 4 | 0 |
| Prairieville (07380102) | 2.07" | -- | 7 | 0 |
| Pt. Vincent (07380120) ***(0.1")*** | 2.40" | -- | -- | 0 |
| French Settlement (07380200) | 1.89" | -- | 5 | 0 |
| *LSU AgCenter LAIS Automated Stations* | | | | |
| LAIS - Ben Hur Farm | 0.59" | -- | 7 | 0 |
| LAIS - Burden Plantation | 2.08" | -- | 5 | 0 |
| LAIS - St. Gabriel Res Sta | 1.05" | -- | 4 | 0 |
| *CoCoRaHS Volunteer Observers* | | | | |
| Old Jefferson 0.9 W (LA-EB-21) | M | -- | M | M |
| Shenandoah 0.8 W (LA-EB-36) | 1.42" | -- | 4 | 0 |
| Monticello 3.0 ENE (LA-EB-19) | 1.02" | -- | 4 | 0 |
| Brownfields 5.8 NE (LA-EB-9) | 0.93" | -- | 4 | 0 |
| Baton Rouge 2.5 E (LA-EB-27) | 2.17" | -- | 5 | 1 |
| Baton Rouge 2.7 SW (LA-EB-2) | 1.09" | -- | 6 | 0 |
| Zachary 3.5 WNW (LA-EB-28) | 2.38" | -- | 5 | 1 |
| LSU Campus (LA-EB-33) | 1.17" | -- | 5 | 0 |
| | | | | |
| WAFB-TV, Downtown BR | 1.77" | -- | 5 | 0 |

DFN - Departure-from-Normal
M - Monthly Report Unavailable
"--" - Normals Not Available



***(i)*** - Monthly Report May Be Incomplete
***(e)*** - Estimated Value
***(0.1")*** - 0.1" Resolution Only

Rainday counts for the 26 sites ranged from 3 to 7 days, with a group median of 5 raindays. Six sites reported single-day totals of 1" or more.

September reports from the Metro Airport ASOS weather platform included:
- 4 days with thunder (Sep 6, 7, 12 & 25), compared to a monthly average of 6.4 days;
- 15 days with fog, including "dense" fog (visibility less than 1/4-mile) on Sep 2nd & 8th; and
- notable smoke and/or haze on Sep 6th.

September winds for the Metro Airport ASOS platform averaged a modest 3.7 mph, well-below the 25-year September average of 5.6 mph. Daily wind speeds during September 2010 averaged below 5.0 mph on 24 dates, including a 13-day run between Sep 9-21 and a 7-day period to close out the month. Daily average winds never reached 10.0 mph during September, although gusts did top 30 mph on Sep 6th and 7th, likely associated with thunderstorm activity on those two dates.

*Drought Status:*
The weekly ***U.S. Drought Monitor*** as of September 28th (Fig. 3) shows the end result of a month-long reduction in environmental moisture, and reflects a southward progression of drought conditions across the state through the month as a result of the drier-than-normal weather. The Baton Rouge metro area ended September rated as "abnormally dry" after having begun the month rated "normal to moist" (thanks to August's "wet" weather pattern and double-digit rains in the area). With normal to below-normal rain projected for the coming weeks and months, it is likely that the metro area will slip into "moderate drought."

*The Extended Outlook:*
Projections for the onset and persistence of a moderate to strong *La Niña* through the fall, winter and spring increase the likelihood of continued "dry" weather for south Louisiana. Historically, roughly 8-in-10 *La Niñas* have resulted in below-average rainfall for the region during the period of November-through-May. But remember, drier-than-normal weather in the winter and spring is not necessarily a problem for south Louisiana, as long as it does not become too dry. In general, winter-spring rainfall exceeds the moisture demand of the natural and agricultural landscape -- in fact, normal winter-spring rains often enhance the flood potential in the region. Although a "dry" winter and spring does not eliminate flood threats for Louisiana, destructive flooding is far less likely.

*Tropical Outlook:*
As we head into October, threats of tropical landfalls on south Louisiana decrease substantially. However, the Bayou State has been hit by October storms, including notables like 2002's *Lili* and 1985's *Juan*. In addition, 2009 delivered Louisiana's first November 'hit' on record, as *T.S. Ida* clipped southern Plaquemines Parish. In addition, the 2010 Hurricane Season has proven to be an active one, so residents are urged to remain vigilant for another four to six weeks.

Figure 1: September 2010 *Daily Max/Min Temperatures and Precipitation* as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Ben Hur Farm (Nicholson Drive).

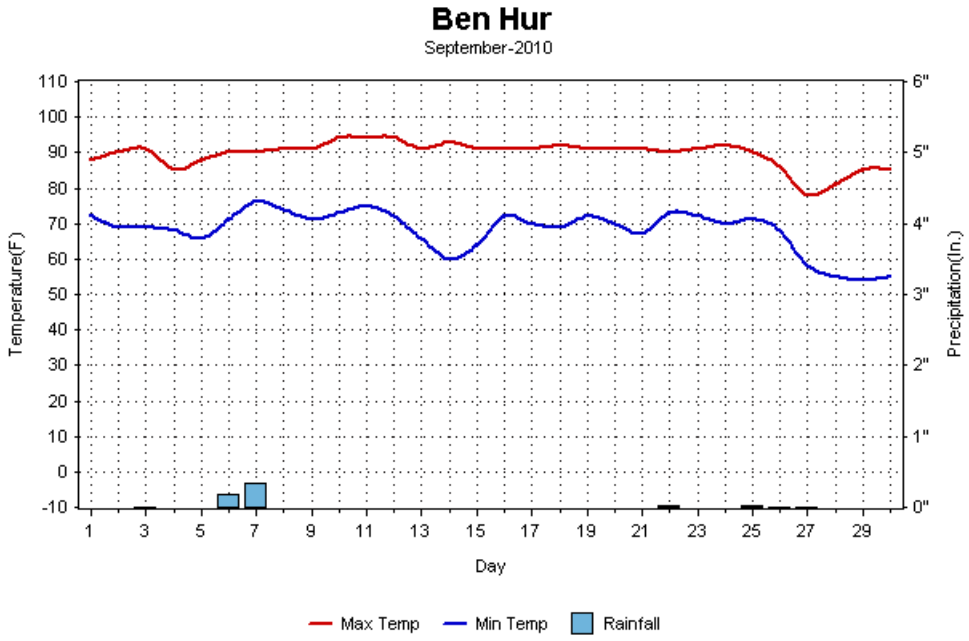



Figure 2: September 2010 *Daily Solar Radiation and Max/Min Soil Temperatures (4 in. depth)* as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Ben Hur Farm.

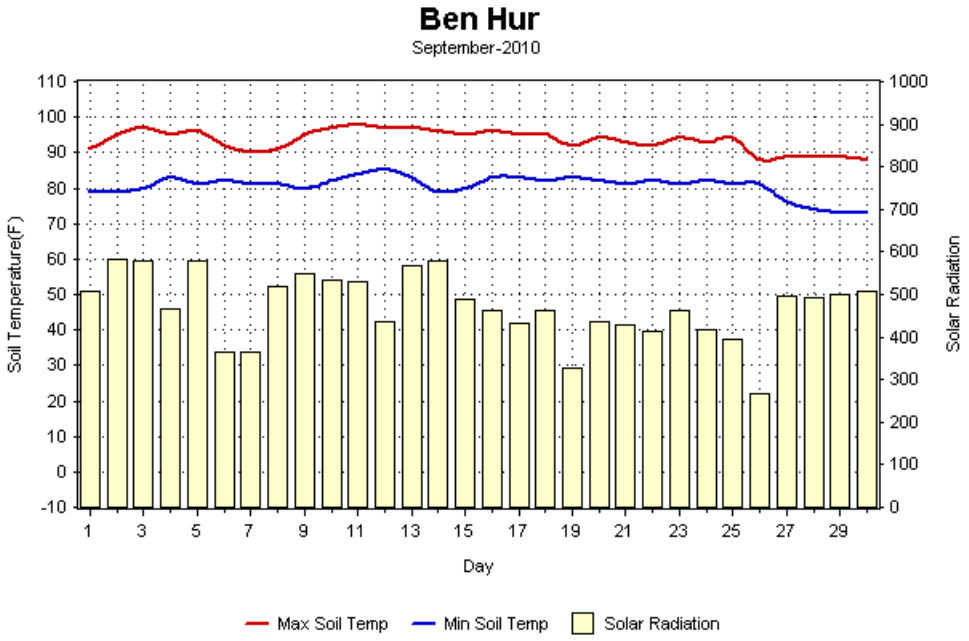
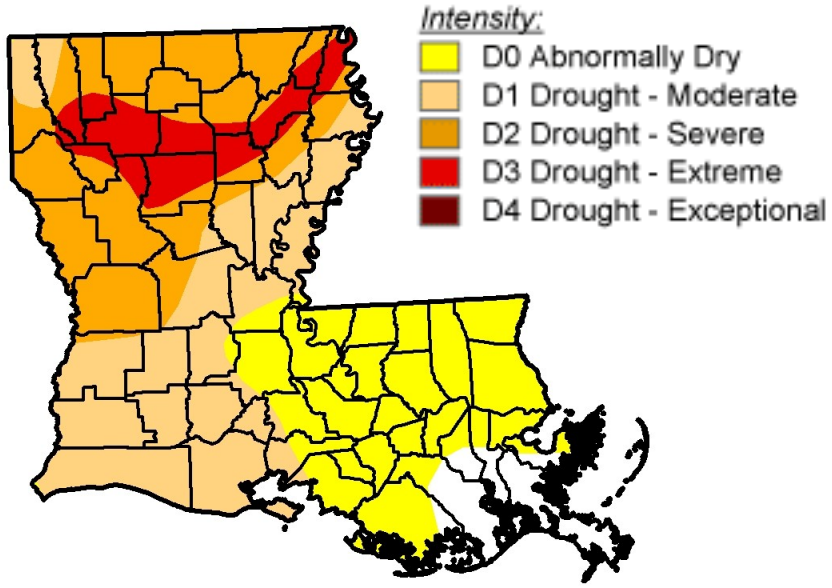


Figure 3: Weekly ***U.S. Drought Monitor*** depiction for 28 September 2010.
Source: http://drought.unl.edu/DM/

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- National Weather Service offices serving Louisiana
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- LSU AgCenter / LAIS Weather Monitoring Program
- U.S. Drought Monitor (http://drought.unl.edu/DM/)
- NWS Climate Prediction Center (NWS/CPC)
- NWS Storm Prediction Center (NWS/SPC)
- NWS Hydrometeorological Prediction Center (NWS/HPC)
- NOAA/National Climatic Data Center (NCDC)
- USGS, Louisiana
- WAFB-TV (Ch. 9), Baton Rouge

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